



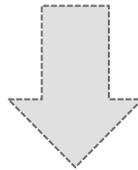
## Summary of Tier 2 Evaluation

September 15, 2011

# Alternatives Evaluation: TIER 1 AND TIER 2 RESULTS

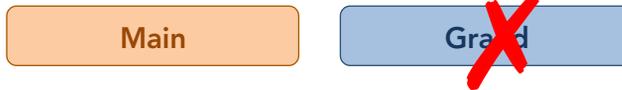
## Tier 1 Screening

Alignment Alternatives:



## Tier 2 Evaluation

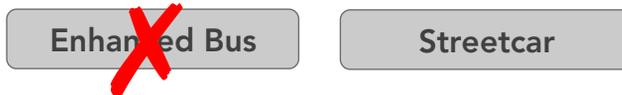
Alignment Alternatives:



Findings:

- Street closures on Grand Boulevard
- Higher ridership on Main Street
- More public and stakeholder support for Main Street
- Higher economic development potential along Main Street

Mode Alternatives:



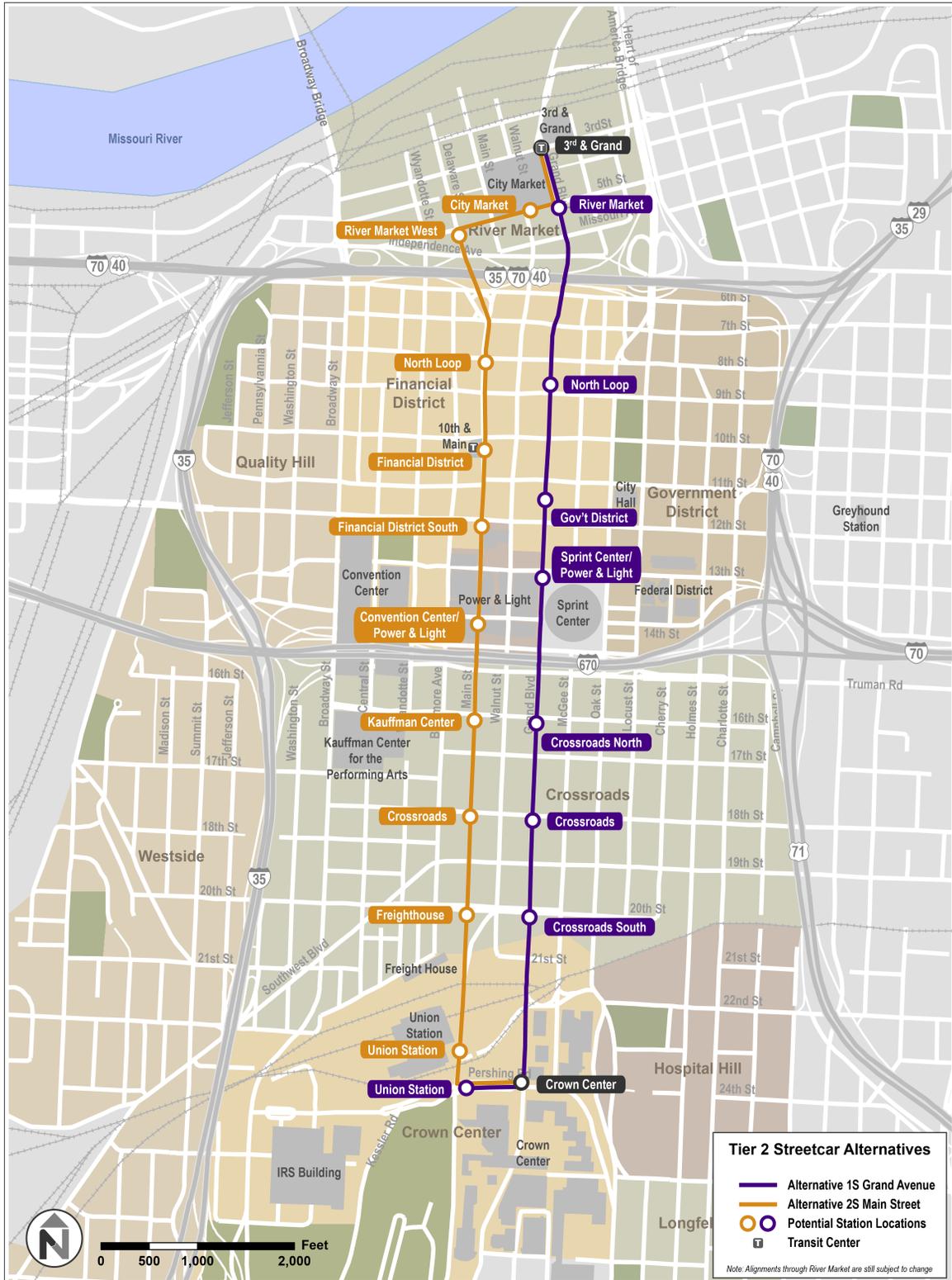
Findings:

- More public support for streetcar
- Higher projected ridership for streetcar
- Significant additional economic development potential from streetcar
- Lower operating cost per passenger for streetcar

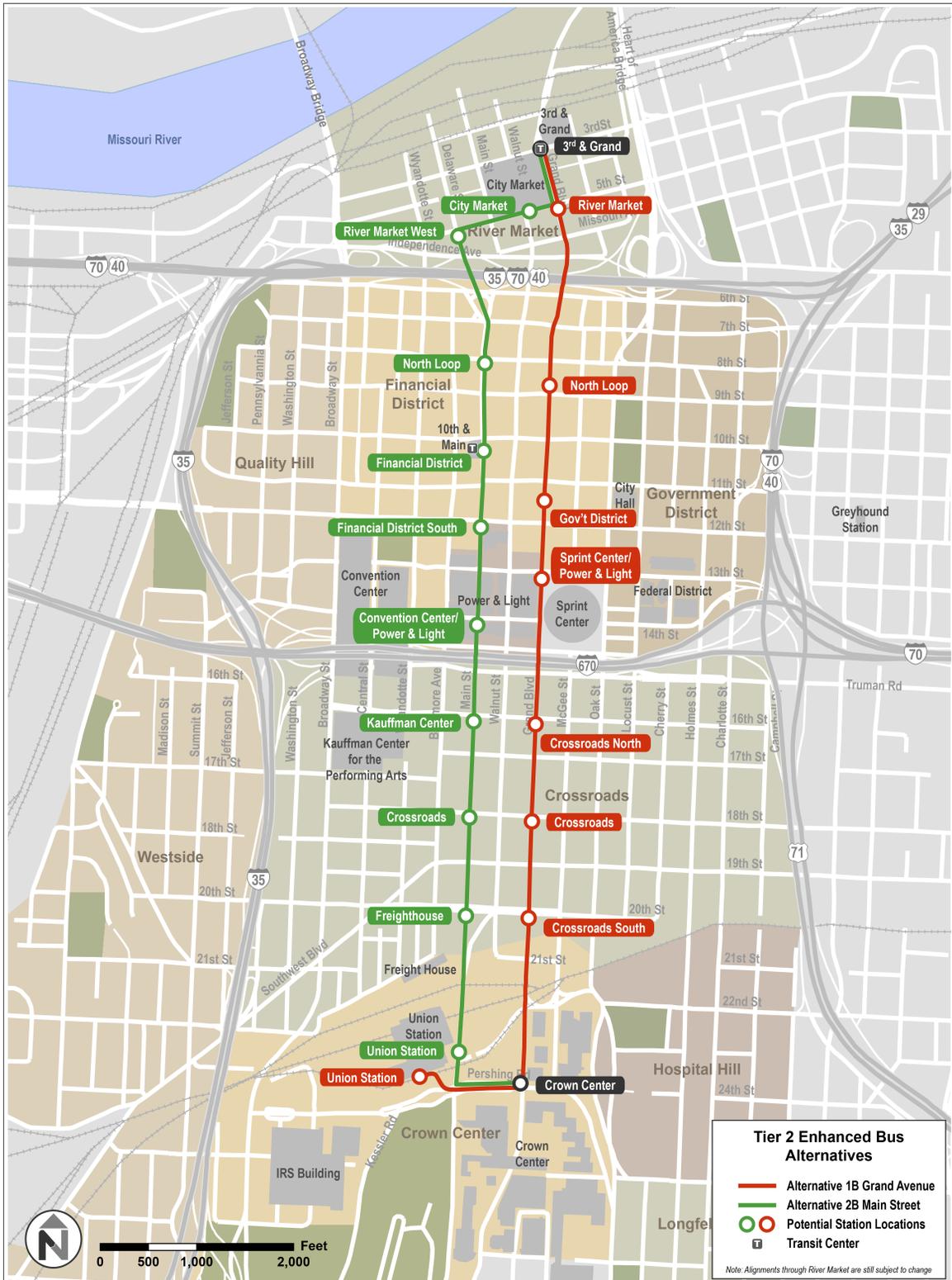
Final Recommendation:



# Alternatives Evaluation: STREETCAR ALTERNATIVES



# Alternatives Evaluation: ENHANCED BUS ALTERNATIVES



# Alternatives Evaluation: **ENHANCED BUS vs. STREETCAR**

## Decision 1: Alignment

Main Street

or

Grand Boulevard

## Decision 2: Technology

### Streetcar (SC)

- Higher capital costs
- Appeals to choice riders
- More comfortable ride
- Larger, roomier vehicle
- Easier to understand and use
- Bicycles accommodated on-board
- More iconic for City
- Has been shown to spur development
- More visual impacts from wires and tracks
- Less flexibility for special events
- No localized emissions



### Enhanced Bus (EB)

- Lower capital costs
- Not as attractive to choice riders
- Less comfortable ride
- Bus designs are becoming more attractive
- Less easy to understand and use
- Bicycles located on rack in front of bus
- Does not grab attention
- Has less significant impact on development
- Less visual impacts
- More flexible for special events
- Localized emissions from buses



# Alternatives Evaluation: **CONNECT**

## Activity Center Connections

Main EB and SC	Grand EB and SC
Directly serves 10 <sup>th</sup> & Main	Directly serves Sprint Center
Closer to Convention Center	Closer to Government District
Closer to Kauffman Center	
All alternatives would directly serve River Market, Power & Light, Crown Center, 3 <sup>rd</sup> & Grand	

Main Street directly serves the 10<sup>th</sup> & Main Transit Center, while Grand Boulevard directly serves the Sprint Center.

**Advantage: Main**

## Activity Levels

*current activity within ¼ mile*

	Main		Grand	
	EB	SC	EB	SC
Housing Units (2010)	3,200	3,200	2,900	2,700
Employees (2005)	47,200	47,200	50,900	50,900
Hotel Rooms (2005)	3,500	3,500	2,500	2,500
Special Event Annual Attendance (2010)	5.7 million	5.7 million	3.3 million	3.3 million

Main Street serves more population, special event venues and hotel rooms. Grand Boulevard serves more employment.

**Advantage: Main**

## Bicycle & Pedestrian Connectivity

— No significant distinction between alignments or modes —

All alternatives have generally good and similar walking and bicycling environments.

**Advantage: none**

# Alternatives Evaluation: **DEVELOP**

## Existing Economic Activity

*within 3 blocks unless noted*

	Main EB and SC	Grand EB and SC
Population (2010)	4,600	3,600
Housing Units (2010)	3,900	3,100
Housing Growth (2040)	+5,900	+4,900
Employees (2010)	52,300	50,100
Employment Growth (2040)	+30,800	+31,400
Hotel Rooms (2010)	3,500	2,500
Venues - Annual Attendance (2010)	5.7 million	3.3 million
Retail Sales Within 1 Block (2010)	\$93 million	\$97 million
Corridor Property Market Value (2010)	\$1,590 million	\$1,570 million

All alternatives serve significant economic activity. Main Street serves more population, special event venues and hotel rooms. Grand Boulevard serves more employment and has higher retail sales.

**Advantage: none**

## Economic Development Potential

*(Uninflated 2010 dollars)*



Enhanced bus would not be expected to induce a significant amount of new development

Through 2025, streetcar would be expected to induce 77% and 70% more economic growth over baseline growth on Main Street and Grand Boulevard, respectively.

**Advantage: Main Streetcar**

All alternatives offer similar capacity for future development. Neither alignment would "run out" of development sites in the near to intermediate term.

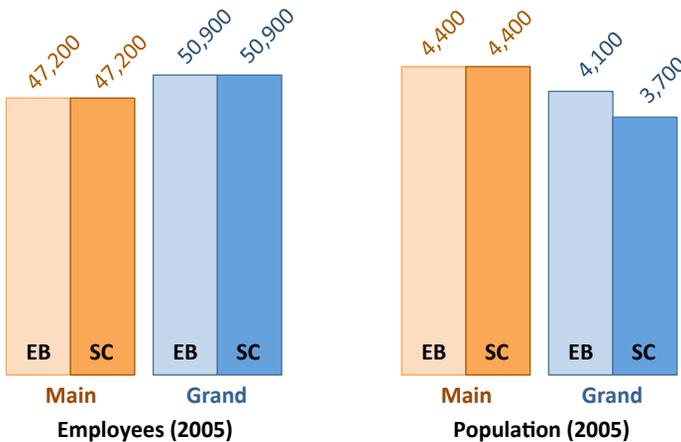
**Advantage: none**

Projected Corridor Land Value in 2025

## Alternatives Evaluation: **THRIVE**

### Residential & Employment Activity

	Main		Grand	
	EB	SC	EB	SC
Employees within ¼ mile (2005)	47,200	47,200	50,900	50,900
Population within ¼ mile (2010)	4,400	4,400	4,100	3,700



Main Street alternatives would serve more residential population, while Grand Boulevard alternatives would serve more employment.

**Advantage: none**

### Transit Reliability

*number of street closures (6 months, 2011)*

	Main	Grand
	EB and SC	EB and SC
Partial Day	0	5
Full Day	0	16
Total	0	21

Grand has a significant number of annual street closures for special events, which would impact transit reliability.

**Advantage: Main Streetcar or Main Enhanced Bus**

### Public & Stakeholder Support

Stakeholder and public comments can be summarized as:

- Overwhelming support for streetcar over bus
- Most liked the simplicity of the study alignments
- The Downtown Corridor should be considered a “starter” line with possible expansion in the future (airport, Waldo, Johnson County)
- Some liked Grand Boulevard because it would serve downtown employment and is straighter but some expressed concern about impacts on the Sprint Center
- Many liked Main Street because of its central location and connections to a variety of activity centers but some expressed concern about parking impacts

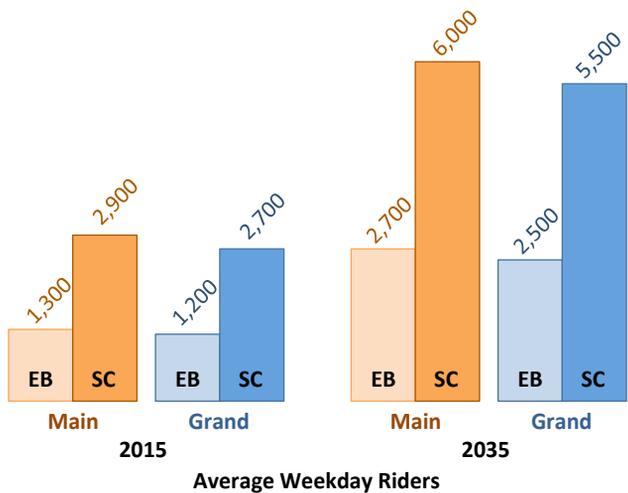
Overwhelming support for streetcar over bus. Main Street consistently received more numerous and more vocal support from the public and from stakeholders.

**Advantage: Main Streetcar**

# Alternatives Evaluation: **SUSTAIN**

## Ridership

	Main		Grand	
	EB	SC	EB	SC
2015 Ridership	1,300	2,900	1,200	2,700
2035 Ridership	2,700	6,000	2,500	5,500

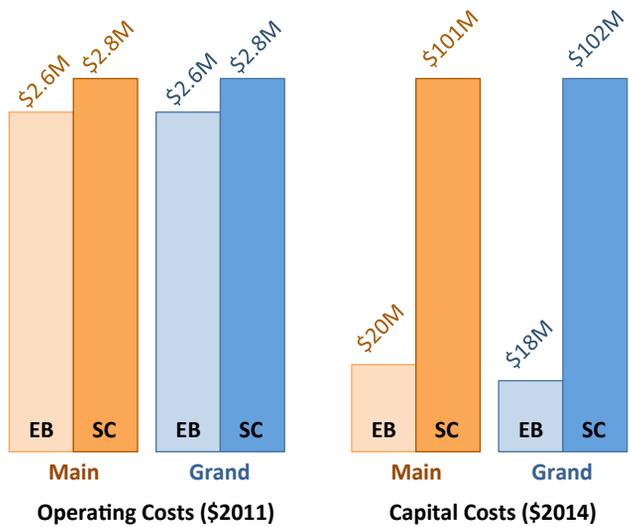


Both streetcar alignments would have significantly higher ridership than enhanced bus. The Main Street alternatives would carry approximately 9% more riders than the Grand Boulevard alternatives.

**Advantage: Main Streetcar**

## Capital and Operating Costs

	Main		Grand	
	EB	SC	EB	SC
Capital Cost (\$2014)	\$20M	\$101M	\$18M	\$102M
Operating Cost (\$2011)	\$2.6M	\$2.8M	\$2.6M	\$2.8M



Estimated capital costs for the streetcar alternatives are higher than for the enhanced bus alternatives, but operating costs are similar between modes. Neither capital nor operating costs would differ substantially between alignments.

**Advantage: Main or Grand Enhanced Bus**

# Alternatives Evaluation: **SUSTAIN**

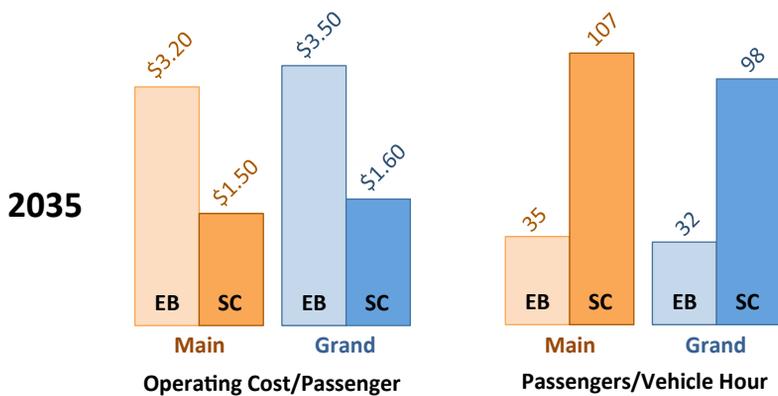
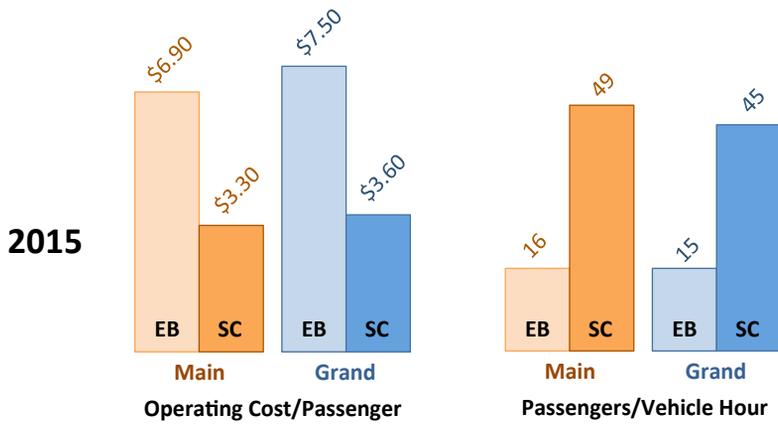
## Service Effectiveness

(\$2011)

	Main		Grand	
	EB	SC	EB	SC
2015 Operating Cost/Passenger	\$6.90	\$3.30	\$7.50	\$3.60
2035 Operating Cost/Passenger	\$3.20	\$1.50	\$3.50	\$1.60
2015 Passengers/Vehicle Hour	16	49	15	45
2035 Passengers/Vehicle Hour	35	107	32	98

Streetcar alternatives are projected to carry significantly more passengers per revenue hour, would have a lower operating cost per passenger, and would have a higher capital cost per passenger. The Main Street alignment is slightly more effective than Grand Boulevard.

**Advantage: Main Streetcar**



## Environmental & Historic Resources

— No significant impacts —

A preliminary evaluation suggests that neither alignment would have significant impacts on environmental or historic resources.

**Advantage: none**

## Alternatives Evaluation: **EVALUATION FINDINGS**

	<b>Alignment</b>	<b>Mode</b>
Activity Center Connections:	<b>MAIN</b>	none
Activity Levels:	<b>MAIN</b>	none
Bicycle & Pedestrian Connectivity:	none	none
Existing Economic Activity:	none	none
Economic Development Potential:	<b>MAIN</b>	<b>STREETCAR</b>
Residential & Employment Activity:	<b>MAIN</b>	<b>STREETCAR</b>
Transit Reliability:	<b>MAIN</b>	none
Public & Stakeholder Support:	<b>MAIN</b>	<b>STREETCAR</b>
Ridership Projections:	<b>MAIN</b>	<b>STREETCAR</b>
Capital & Operating Costs:	none	<b>ENHANCED BUS</b>
Service Effectiveness:	<b>MAIN</b>	<b>STREETCAR</b>
Environmental & Historic Resources:	none	none

# Alternatives Evaluation: **RECOMMENDED ALTERNATIVE**

**MAIN STREET**

**STREETCAR**

